

AMENDMENTS TO THE SPECIFICATION

Page 1, after the title insert the following:

This application is the US national phase of international application PCT/IB2004/001917 filed 18 June 2004 which designated the U.S. and claims benefit of IT MO2003A000177, dated 19 June 2003, the entire contents of each of which are hereby incorporated by reference.

Please amend the paragraph beginning at page 1 line 31, as follows:

Such apparatuses comprise a first turntable with which a folding unit ~~folding means is~~ is associated arranged to fold the aforementioned appendages towards the inside of the caps, namely in the direction of the aforementioned base wall.

Please amend the paragraph beginning at page 2 line 1, as follows:

The apparatuses furthermore comprise a second turntable with which a cutting unit is associated that is ~~are associated cutting means~~ arranged to make an incision on the aforementioned side wall in such a way as to define a nominal cutting line interposed between the seal ring and the mantle of the cap.

Please amend the paragraph beginning at page 2 line 6, as follows:

Alternatively, the cutting unit ~~means~~ can be associated with a first turntable and the folding units ~~means~~ can be associated with a second turntable.

Please amend the paragraph beginning at page 2 line 9, as follows:

The cutting ~~means-unit~~ comprises an ~~incision-etching~~ knife, arranged outside the cap, against which the aforementioned side wall is made to rotate by means of a suitable cap moving means-unit.

Please amend the paragraph beginning at page 2 line 12, as follows:

The ~~incision-etching~~ knife comprises a blade shaped in such a way as to have a series of teeth to make incisions in the side wall of the cap that pass through the side wall, between which zones without incisions are interposed, which constitute bridge elements suitable for being broken when the cap is first opened.

Please amend the paragraph beginning at page 2 line 18, as follows:

Alternatively, the ~~incision-etching~~ knife may comprise a blade with a continuous cut that is suitable for interacting with caps that have a side wall with a variable thickness.

Please amend the paragraph beginning at page 3 line 28, as follows:

European patent application EP-A-1243520 discloses an apparatus for the production of caps comprising a sole operating turntable with which both a folding means-unit and a cutting means-unit are associated.

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Please amend the paragraph beginning at page 4 line 1, as follows:

In this apparatus the folding ~~means-unit~~ and the cutting ~~means-unit~~ are arranged in positions that are angularly subsequent and one after the other they interact with the caps.

Please amend the paragraph beginning at page 4 line 8, as follows:

The folding ~~means-unit~~ disclosed in EP-A-1243520 comprises a ring provided with a tapered end suitable for being inserted inside the caps.

Please amend the paragraph beginning at page 4 line 27, as follows:

A further drawback of the apparatuses disclosed above consists of the fact that the blade of the ~~incision-etching~~ knife with which the cutting ~~means-unit~~ is provided is subjected to significant wear.

Please amend the paragraph beginning at page 4 line 31, as follows:

It is therefore necessary to manually position the ~~incision-etching~~ knife by moving its blade in the direction of the zone of contact with the caps, in such a way as to offset a shortening of the blade due to the aforementioned wear.

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Please amend the paragraph beginning at page 5 line 1, as follows:

Manual positioning occurs by means of the use of a split nut, provided with a micrometric screw, that is coupled with a toolholder that supports the ~~incision~~etching knife.

Please amend the paragraph beginning at page 5 line 11, as follows:

To discharge the screw from the aforementioned mechanical stress, a clamp lock of the ~~incision~~etching knife may be provided, which however significantly increases the complexity of the apparatus, and the cost of thereof.

Please amend the paragraph beginning at page 5 line 15, as follows:

Apparatuses of the known type are equipped with a folding means-unit provided with punches that exert a pulse action on the fixing promoting ~~means-unit~~ in a substantially axial direction to the inside of the caps.

Please amend the paragraph beginning at page 5 line 30, as follows:

A yet further object is to obtain an apparatus for the production of caps in which the cutting ~~means-unit~~ can be positioned with extreme precision and without necessarily interrupting the work cycle of the apparatus.

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Please amend the paragraph beginning at page 6 line 1, as follows:

A yet further object of the invention is to obtain an apparatus for the production of caps provided with a positioning means-device for positioning of the cutting means-unit that, during operation, ~~are~~is substantially not subjected to mechanical stress.

Please amend the paragraph beginning at page 6 line 5, as follows:

A yet further object of the invention is to obtain an apparatus for the production of caps provided with a folding means-unit shaped in such a way as not to cause plastic deformations of the caps.

Please amend the paragraph beginning at page 6 line 9, as follows:

In a first aspect of the invention, an apparatus is provided for the production of caps, comprising a first operating turntable means-device associated with a first operating means-arrangement and a further operating turntable means-device associated with a further operating means-arrangement, ~~characterised in that wherein~~ between said first operating turntable means-device and said further operating turntable means-device there is interposed a transfer-transferring turntable means-device such as to translate said caps between said first operating turntable means-device and said further operating turntable means-device.

Please amend the paragraph beginning at page 6 line 18, as follows:

In one embodiment, the first operating ~~means~~ arrangement comprises a folding ~~means~~ arrangement, arranged to fold a fixing ~~promotion~~ promoting ~~means~~ arrangement with which said caps are provided, and the further operating ~~means~~ arrangement comprises a cutting ~~means~~ arrangement, arranged to make nominal cutting line means in a side wall of the caps.

Please amend the paragraph beginning at page 6 line 23, as follows:

In another embodiment, the first operating arrangement ~~means~~ comprises a cutting ~~means~~ arrangement, whereas the further operating ~~means~~ arrangement comprises a folding ~~means~~ arrangement.

Please amend the paragraph beginning at page 6 line 26, as follows:

In a further embodiment, the apparatus furthermore comprises a further ~~transfer~~ transferring turntable ~~means~~ device such as to pick up the caps from the further operating turntable ~~means~~ device.

Please amend the paragraph beginning at page 6 line 29, as follows:

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Owing to this aspect of the invention it is possible to obtain an apparatus for the production of caps that is provided with limited overall dimensions inasmuch as the ~~transfer-transferring~~ turntable ~~means-device~~ is provided with rather a compact shape.

Please amend the paragraph beginning at page 6 line 33, as follows:

The presence of the ~~transfer-transferring~~ turntable ~~means-device~~ enables the installation of large conveyor ~~means-device~~ to be avoided between the first operating turntable ~~means-device~~ and the further operating turntable ~~means-device~~.

Please amend the paragraph beginning at page 7 line 3, as follows:

As the rotation speed of the ~~transfer-transferring~~ turntable ~~means-device~~ is synchronized with that of the first operating turntable ~~means-device~~ and of the second operating turntable ~~means-device~~ it is possible to obtain an effective and simple movement of the caps.

Please amend the paragraph beginning at page 7 line 7, as follows:

Furthermore, owing to the presence of a further ~~transfer-transferring~~ turntable ~~means-device~~, the caps can be evacuated from the apparatus according to any direction of advance.

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Please amend the paragraph beginning at page 7 line 10, as follows:

Providing a rotating device specifically intended for unloading the caps from the apparatus in fact enables selecting the angular position of the further ~~transfer~~ transferring turntable ~~means~~ device at which to provide a pickup line.

Please amend the paragraph beginning at page 7 line 14, as follows:

As no further operation has to be performed whilst the caps are associated with the further ~~transfer~~ transferring turntable ~~means~~ device, the aforementioned pickup line can be arranged substantially in any position in relation to the second ~~transfer~~ transferring turntable ~~means~~ device.

Please amend the paragraph beginning at page 7 line 25, as follows:

In a second aspect of the invention, an apparatus is provided for the production of caps, comprising a first operating turntable ~~means~~ device associated with a first operating ~~means~~ arrangement and a further operating turntable ~~means~~ device associated with a further operating ~~means~~ arrangement, characterised in that ~~wherein~~ between said first operating arrangement ~~means~~ and said ~~second~~ further operating arrangement ~~means~~ a monitoring ~~means~~ device is interposed arranged to monitor said caps.



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Please amend the paragraph beginning at page 7 line 32, as follows:

In one embodiment, the first operating arrangement ~~means~~ comprises a folding means arrangement arranged to fold a fixing ~~promotion~~ promoting means arrangement with which said caps are equipped, and said ~~second~~ further operating arrangement ~~means~~ comprises a cutting means arrangement arranged to make a nominal cutting line ~~means~~ in a side wall of said caps.

Please amend the paragraph beginning at page 8 line 3, as follows:

In one embodiment, the apparatus furthermore comprises, downstream of the monitoring ~~means~~ device, a pickup means arrangement arranged to pick up from the apparatus caps that have been deemed not to conform to a preset quality standard following an examination conducted by the aforementioned monitoring ~~means~~ device.

Please amend the paragraph beginning at page 8 line 8, as follows:

In another embodiment, the monitoring ~~means~~ device comprises cameras.

Please amend the paragraph beginning at page 8 line 11, as follows:

This makes it possible to prevent caps from damaging the cutting ~~means~~ arrangement.

Please amend the paragraph beginning at page 8 line 13, as follows:

In one embodiment, the monitoring ~~means-device~~ is associated with a transfer transferring turntable means-device interposed between a first operating turntable means-device with which the folding arrangement is associated ~~the folding means~~ and a further operating turntable means-device with which the cutting ~~means-arrangement~~ is associated.

Please amend the paragraph beginning at page 8 line 18, as follows:

Providing the aforementioned ~~transfer~~ transferring turntable means-device enables the apparatus according to the invention to be equipped with further operating devices – such as monitoring ~~means-devices~~ or the like – suitable for performing on the caps additional operations to the folding and cutting operations.

Please amend the paragraph beginning at page 8 line 27, as follows:

In a third aspect of the invention a device is provided for positioning a tool in relation to an object to be processed, comprising a toolholder means-element suitable for bearing said tool and an adjustable member operationally associatable with said toolholder ~~means-element~~, characterised in that wherein it furthermore comprises an stop-abutting member is furthermore comprised, said abutting member being suitable for tightening said toolholder ~~means-element~~ against said adjustable member.

Please amend the paragraph beginning at page 9 line 1, as follows:

In one embodiment, the adjustable member comprises a block actuated to slide by an adjusting ~~means~~ arrangement and provided with a tilted face suitable for interacting with a correspondingly tilted active surface of the toolholder ~~meanselement~~.

Please amend the paragraph beginning at page 9 line 5, as follows:

In another embodiment, the ~~step~~ abutting member comprises a further tilted face suitable for interacting with a further correspondingly tilted active surface opposite the aforementioned active surface of the toolholder ~~meanselement~~.

Please amend the paragraph beginning at page 9 line 9, as follows:

Owing to this aspect of the invention, it is possible to obtain a device for positioning a tool, provided with an adjusting ~~means~~ arrangement arranged to move the adjustable member, which adjusting member is not substantially subjected to mechanical stress during operation of the apparatus.

Please amend the paragraph beginning at page 9 line 14, as follows:

In particular, it is possible to obtain an apparatus for the production of caps wherein the distance of the cutting ~~means~~ arrangement from the caps to be cut can be adjusted to offset shortening due to cutting ~~means~~ arrangement wear.

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Please amend the paragraph beginning at page 9 line 18, as follows:

In a fourth aspect of the invention, an apparatus is provided for the production of caps comprising a chamber ~~seat means~~ element isolated from an external environment and arranged to receive said caps to enable said caps to be subjected to controlled treatment.

Please amend the paragraph beginning at page 9 line 22, as follows:

In one embodiment, with the chamber ~~means~~ element an adjusting means arrangement is associated arranged to adjust the temperature inside the chamber ~~means~~ element.

Please amend the paragraph beginning at page 9 line 25, as follows:

In another embodiment with the chamber ~~means~~ element an irradiation-irradiating means arrangement is associated arranged to irradiate the caps.

Please amend the paragraph beginning at page 9 line 27, as follows:

In a further embodiment, with the chamber ~~means~~ element a cleaner-cleaning means arrangement is associated arranged to perform cap cleaning operations.

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Please amend the paragraph beginning at page 9 line 29, as follows:

In a yet further embodiment, the chamber ~~seat means~~element is associated with a turntable ~~means~~device arranged to transfer the caps.

Please amend the paragraph beginning at page 10 line 1, as follows:

In a fifth aspect of the invention, an apparatus is provided for the production of caps, comprising a cutting means~~arrangement~~ arranged to make on said caps a nominal cutting line~~means~~, characterised in thatwherein it ~~furthermore comprises a sensor~~sensing means~~arrangement~~ is furthermore comprised, said sensing arrangement~~being~~ operationally associated with said cutting ~~means~~arrangement in such a way as to monitor the positioning of said cutting ~~means~~arrangement in relation to said caps.

Please amend the paragraph beginning at page 10 line 8, as follows:

In one embodiment, the ~~sensor~~sensing means~~arrangement~~ comprises a position sensor~~sensing means~~device arranged to detect thermal dilations of an incision~~etching~~ knife ~~means~~of the cutting meansarrangement.

Please amend the paragraph beginning at page 10 line 11, as follows:

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In another embodiment, the ~~sensor-sensing means-arrangement~~ comprises a temperature ~~sensor-sensing means-device~~ arranged to detect the temperature of said caps.

Please amend the paragraph beginning at page 10 line 13, as follows:

In a further embodiment, the ~~sensor-sensing means-arrangement~~ comprises a colour ~~sensor-sensing means-device~~ arranged to detect the colour of said caps.

Please amend the paragraph beginning at page 10 line 15, as follows:

In a sixth aspect of the invention, an apparatus is provided for the production of caps, comprising a folding means-arrangement arranged to fold a fixing ~~promotion-promoting~~ means-arrangement inside said caps, ~~characterised in that~~wherein said folding ~~means-arrangement~~ comprises an articulated folding ~~means-device~~ provided with an operating zone movable between an inactive position, in which said operating zone is positioned outside said caps, and a work position, in which said operating zone is received inside said caps in such a way as to fold said fixing ~~promotion-promoting means-arrangement~~ inside said caps.

Please amend the paragraph beginning at page 10 line 24, as follows:

Owing to this aspect of the invention, it is possible to obtain an apparatus for the production of caps in which the risks of damage to the caps during folding operations of the fixing ~~promotion~~ promoting means arrangement are noticeably limited or are even completely eliminated.

Please amend the paragraph beginning at page 10 line 29, as follows:

In a seventh aspect of the invention, an apparatus is provided for the production of caps, comprising a folding means arrangement arranged to fold a fixing ~~promotion~~ promoting means arrangement with which said caps are provided and a cutting means arrangement arranged to make a nominal cutting line ~~means~~ in a side wall of said caps, characterised in wherein that said cutting ~~means~~ arrangement is coaxial to said folding ~~means~~ arrangement and is arranged outside said folding ~~means~~ arrangement.

Please amend the paragraph beginning at page 11 line 8, as follows:

Figure 2 is a plan view of a transfer-transferring turntable means device of the apparatus in Figure 1;

Please amend the paragraph beginning at page 11 line 10, as follows:

Figure 3 is a partially sectioned side view of an operating turntable means device of the apparatus in Figure 1 with which a cutting means arrangement is associated,

shown in an operating configuration, and a positioning ~~means~~ arrangement of the  
aforementioned cutting ~~means~~arrangement;

Please amend the paragraph beginning at page 11 line 15, as follows:

Figure 4 is a view like the one in Figure 3, showing the cutting ~~means~~arrangement in a  
rest configuration;

Please amend the paragraph beginning at page 11 line 17, as follows:

Figure 5 is a view like the one in Figure 3, showing a monitoring ~~means~~ device  
associated with the cutting ~~means~~arrangement;

Please amend the paragraph beginning at page 11 line 20, as follows:

Figure 7 is a view like the one in Figure 3 showing the cutting ~~means~~arrangement,  
shown in a rest configuration, and a positioning ~~means~~ arrangement of the cutting  
~~means~~arrangement made according to one version;

Please amend the paragraph beginning at page 11 line 23, as follows:

Figure 8 is a view like the one in Figure 3, showing the cutting ~~means~~arrangement in a  
rest configuration;



Please amend the paragraph beginning at page 11 line 25, as follows:

Figure 9 is a plan view of a support element of the cutting ~~means~~arrangement with which the positioning ~~means~~arrangement shown in Figure 7 is provided;

Please amend the paragraph beginning at page 11 line 28, as follows:

Figure 10 is a view from behind of the positioning ~~means~~arrangement arranged in a locking configuration, when the cutting ~~means~~arrangement is in the operating configuration shown in Figure 8;

Please amend the paragraph beginning at page 11 line 32, as follows:

Figure 12 is a plan view showing the cutting ~~means~~arrangement in the operating configuration in Figure 8;

Please amend the paragraph beginning at page 12 line 4, as follows:

Figure 15 is a section taken along a transverse plane of a folding ~~means~~arrangement of the apparatus according to the invention;

Please amend the paragraph beginning at page 12 line 6, as follows:

Figure 16 is a section taken along a transverse plane of one ~~preferred~~ embodiment of the ~~transfer~~ transferring turntable ~~means~~ device;

Please amend the paragraph beginning at page 12 line 8, as follows:

Figure 17 is a view like the one in Figure 6 showing ~~a sensor~~ sensing ~~means~~ arrangement suitable for detecting the position of the cutting ~~means~~ arrangement;

Please amend the paragraph beginning at page 12 line 14, as follows:

Figure 19 is a partially sectioned front view showing the apparatus in Figure 18 in a phase preceding execution of folding of the fixing promoting ~~means~~ arrangement with which the caps are provided;

Please amend the paragraph beginning at page 12 line 18, as follows:

Figure 20 is a partially sectioned front view of the apparatus in Figure 18 showing ~~a~~ fixing promoting ~~means~~ arrangement folded inside a cap;

Please amend the paragraph beginning at page 12 line 31, as follows:

In the side wall, a mantle can be identified, which may be internally provided with a thread suitable for engaging in a corresponding thread obtained in the aforementioned neck, with a seal ring that acts as an opening indicator ~~means~~ element.

Please amend the paragraph beginning at page 13 line 6, as follows:

With the seal ring a fixing promoting means-arrangement is connected suitable for preventing the seal ring from getting detached from the corresponding container during said first opening. The fixing promoting ~~means-arrangement~~ comprises a plurality of flaps 54 (Figure 15), or of a continuous ring 106 (Figures 18 and 19), that interact with a stop obtained on the neck of the container.

Please amend the paragraph beginning at page 13 line 28, as follows:

The apparatus 1 comprises a first operating turntable 3 with which is associated a folding means-arrangement 52 (Figure 15) arranged to fold the flaps 54, transferring them from the aforementioned first position to the aforementioned further position.

Please amend the paragraph beginning at page 13 line 33, as follows:

The apparatus 1 furthermore comprises a second operating turntable 4 with which is associated a cutting means-arrangement 5 arranged to make the nominal cutting line in the side wall of each of the caps 2.

Please amend the paragraph beginning at page 14 line 3, as follows:

The apparatus 1 is furthermore provided with a ~~transfer~~transferring turntable 6 interposed between the first operating turntable 3 and the second operating turntable 4 and suitable for transferring the caps 2 in the course of processing from the first operating turntable 3 to the second operating turntable 4.

Please amend the paragraph beginning at page 14 line 9, as follows:

The ~~transfer~~transferring turntable 6 enables an extremely compact apparatus to be obtained, inasmuch, unlike what happens in the known apparatuses of the prior art, no linear connection channels are provided interposed between the first operating turntable 3 and the second operating turntable 4.

Please amend the paragraph beginning at page 14 line 14, as follows:

The apparatus 1 is furthermore provided with a further ~~transfer~~transferring turntable 7, suitable for receiving the caps 2 from the second operating turntable 4 to deliver them to a further conveying device 9, comprising a driven conveyor belt 10, that advances them towards ~~collection~~collecting devicesmeans.

Please amend the paragraph beginning at page 14 line 19, as follows:

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The further ~~transfer~~transferring turntable 7 enables the caps 2 to be evacuated from the apparatus 1 in such a way that they advance on the conveyor belt 10, being separated from one another by a preset distance.

Please amend the paragraph beginning at page 14 line 26, as follows:

The auxiliary devices 13 may for example comprise cameras 11 suitable for checking for the presence of any defects, or ~~removal~~removing ~~means~~devices 12 arranged to reject caps 2 that have been found to be defective.

Please amend the paragraph beginning at page 14 line 30, as follows:

The presence of the further ~~transfer~~transferring turntable 7 enables the further conveying device 9 to be directed in any direction in relation to the apparatus 1.

Please amend the paragraph beginning at page 15 line 7, as follows:

Providing a further ~~transfer~~transferring turntable 7 specifically dedicated to the evacuation of the caps 2 in fact enables the further conveying device 9 to be associated with any point of the latter.

Please amend the paragraph beginning at page 15 line 11, as follows:

In other words, the caps 2 may perform on the further ~~transfer~~transferring turntable 7 an angular shift of the desired amount, it being possible to select this amount for the purpose of positioning at will the point of connection of the further ~~transfer~~transferring turntable 7 with the further conveyor 9 and to direct the latter according to a desired direction.

Please amend the paragraph beginning at page 15 line 30, as follows:

In order to better understand the operation of the apparatus 1, in Figure 1, the arrow F shows the direction of rotation of the first operating turntable 3, the arrow F1 shows the direction of rotation of the ~~transfer~~transferring turntable 6, the arrow F2 shows the direction of rotation of the second operating turntable 4 and the arrow F3 shows the direction of rotation of the further ~~transfer~~transferring turntable 7.

Please amend the paragraph beginning at page 16 line 3, as follows:

With reference to Figure 2, the ~~transfer~~transferring turntable 6 comprises a rotating table 14 provided with seats 15 angularly distanced from one another and suitable for each receiving a cap 2.

Please amend the paragraph beginning at page 16 line 6, as follows:

The ~~transfer~~transferring turntable 6 furthermore comprises an inlet guide 16, suitable for promoting the insertion of the caps 2 inside the seats 15, and an outlet guide 17 suitable for promoting the evacuation of the caps 2 from the rotating table 14.

Please amend the paragraph beginning at page 16 line 10, as follows:

The ~~transfer~~transferring turntable 6 furthermore comprises an intermediate guide 18 that cooperates with the seats 15 to keep the caps 2 in the correct position during actuation of the rotating table 14.

Please amend the paragraph beginning at page 16 line 14, as follows:

With the ~~transfer~~transferring turntable 6 a camera 19 is associated that is suitable for monitoring the caps 2 that are conveyed from the rotating table 14 in order to identify any faults in the latter.

Please amend the paragraph beginning at page 16 line 22, as follows:

With the ~~transfer~~transferring turntable 6 a cutting device 37 is furthermore associated that is suitable for removing from an external zone of the bottom wall of the caps 2 appendages of the casting feedhead, in the case of caps 2 obtained by injection moulding.

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Please amend the paragraph beginning at page 16 line 27, as follows:

As the aforementioned nominal cutting line is obtained by making the caps 2 roll on the cutting ~~means~~arrangement 5, the aforementioned appendages may constitute unevenness that hinder correct rolling.

Please amend the paragraph beginning at page 17 line 1, as follows:

The first operating turntable 3, the second operating turntable 4, the transfer transferring turntable 6 and the further ~~transfer~~transferring turntable 7 may have diameters that are different from one another and as a result on each of them a different number of seats 15 may be obtained.

Please amend the paragraph beginning at page 17 line 6, as follows:

With reference to Figures 3 and 4 there ~~are~~is shown a cutting ~~means~~arrangement 5 comprising a positioning device 22 suitable for positioning an ~~incision~~etching knife 23 in relation to a cap 2 to be cut.

Please amend the paragraph beginning at page 17 line 10, as follows:

The positioning device 22 comprises a toolholder block 24 arranged to support the ~~incision~~etching knife 23, the toolholder block 24 being slidable on a frame of the apparatus 1 in the direction indicated by the arrow F5.



Please amend the paragraph beginning at page 17 line 27, as follows:

The apparatus 1 furthermore comprises a ~~step~~an abutting member 31 cooperating with the toolholder block 24 and with the adjustable member 25.

Please amend the paragraph beginning at page 17 line 30, as follows:

The positioning device 22 furthermore comprises an actuator 32 arranged to transfer the ~~step~~abutting member 31 between a raised work position, indicated by C in Figure 3, and a lowered rest position, indicated by D in Figure 4.

Please amend the paragraph beginning at page 18 line 1, as follows:

The ~~step~~abutting member 31 comprises a yet further first face 33 arranged substantially vertically and suitable for sliding, keeping in contact with a plate 34 connected to the frame of the apparatus 1, when the ~~step~~abutting member 31 is transferred from the lowered rest position D to the raised work position C, and vice versa.

Please amend the paragraph beginning at page 18 line 7, as follows:

The ~~step~~abutting member 31 furthermore comprises a further second face 35 opposite the further first face 33 and tilted in relation to a vertical plane.

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Please amend the paragraph beginning at page 18 line 18, as follows:

Adjustment of the position of the ~~incision~~-etching knife 23 occurs in the manner described below.

Please amend the paragraph beginning at page 18 line 25, as follows:

Also subsequently, the actuator 32 makes the ~~step~~-abutting member 31 interact with the toolholder block 24 in such a way as to press the further second face 35 into contact with the further active surface 36.

Please amend the paragraph beginning at page 18 line 29, as follows:

In this way, the positioning device 22 is kept in an operating configuration, indicated by A in Figure 3, in which the stress to which the ~~incision~~-etching knife 23 is subjected is transmitted only to the adjustable member 25 and to the ~~step~~-abutting member 31 and from the latter to the frame of the apparatus 1.

Please amend the paragraph beginning at page 19 line 4, as follows:

The ~~incision~~-etching knife 23, if it is worn, can be approached to the caps 2 to be cut in such a way as to offset the shortening due to the aforementioned wear.

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Please amend the paragraph beginning at page 19 line 9, as follows:

Subsequently, also the ~~stop~~-abutting member 31 is transferred in the direction of the arrow F4.

Please amend the paragraph beginning at page 19 line 22, as follows:

The positioning device 22 furthermore comprises a further actuator 38 arranged to move the toolholder block 24, when the ~~stop~~-abutting member 31 is in the lowered rest position D.

Please amend the paragraph beginning at page 19 line 25, as follows:

By actuating the further actuator 38 it is possible to transfer the device 22 from the operating configuration A to a rest configuration, indicated by B in Figure 4, in which ~~teeth means the~~ cutting means arrangement 5 is removed from the second operating turntable 4 in such a way as to enable maintenance operations such as monitoring, or replacement of the ~~incision~~-etching knife 23.

Please amend the paragraph beginning at page 19 line 31, as follows:

As shown in Figures 5 and 6, a monitoring device 39 of the ~~incision-etching~~ knife 24 can be provided suitable for checking the state of wear of the ~~incision-etching~~ knife 23, when the positioning device 22 is in the rest configuration B.

Please amend the paragraph beginning at page 20 line 13, as follows:

Figures 7 to 12 show a positioning device 22a made according to one version and comprising a plate 250 arranged to support the ~~incision-etching~~ knife 23 and sliding, as shown by the arrow F8, on a frame 252 of the apparatus 1 between an advanced tool position, indicated by L in Figure 8, in which a tooth means-arrangement of the ~~incision-etching~~ knife 23 can interact with the caps, and a retracted rest position, indicated by M in Figure 7, in which the tooth means-arrangement of the ~~incision-etching~~ knife 23 is far from a zone of interaction with the caps.

Please amend the paragraph beginning at page 20 line 25, as follows:

The plate 250 is furthermore centrally provided with an opening 251 comprising a first edge zone 155, that is further from the ~~incision-etching~~ knife 23, and from a second edge zone 156, nearer the ~~incision-etching~~ knife 23.

Please amend the paragraph beginning at page 20 line 29, as follows:

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At the first edge zone 155 and at an end face 162 of the plate 250 arranged substantially parallel to the first edge zone 155 there are respectively provided a first abutting element 157 and a second abutting element 158, each one of which comprising the head 159 of a screw the ~~shank~~stem 160 of which engages in a threaded hole 161 obtained in the thickness of the plate 250.

Please amend the paragraph beginning at page 21 line 7, as follows:

The positioning device 22a furthermore comprises a position adjusting means arrangement 163 positioned inside the opening 251.

Please amend the paragraph beginning at page 21 line 9, as follows:

The position adjusting ~~means~~arrangement 163 comprises a block 164 fixed to the frame 252.

Please amend the paragraph beginning at page 21 line 15, as follows:

At a further end 167 of the block 164, opposite the end 166 and therefore nearest the second edge zone 156, a ~~step~~stopping element 168 is fixed.

Please amend the paragraph beginning at page 21 line 20, as follows:

Similarly to what has been disclosed with reference to the first abutting element 157 and to the second abutting element 158, the further abutting element 165 may comprise a further head 170 of a further screw provided with a further shank ~~stem~~ stem received in a further threaded hole obtained in the block 164.

Please amend the paragraph beginning at page 21 line 29, as follows:

In this way the distance of the further stop element 165 from the block 164 can be varied and as a result the position of the ~~incision~~ etching knife 23 can be adjusted, as will be disclosed in greater detail below.

Please amend the paragraph beginning at page 21 line 33, as follows:

The positioning device 22a furthermore comprises a tightening means arrangement 171 comprising a tooth 173, rotationally supported on a body 172 that is integral with the frame 252, movable between a locking configuration W1, indicated by a continuous line in Figure 10, in which the tooth 173 interacts with the second abutting element 158, and a release configuration W2, indicated by a broken line in Figure 10, in which the tooth 173 does not interact with the second abutting element 158.

Please amend the paragraph beginning at page 22 line 7, as follows:

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Before starting an operating cycle of the apparatus 1, the ~~incision~~etching knife can be positioned in the manner disclosed below.

Please amend the paragraph beginning at page 22 line 23, as follows:

In addition, as the plate 250 can be moved manually, it is possible to obtain an apparatus that has a moderate cost inasmuch as actuating devices arranged to translate the plate 250 and the ~~incision~~etching knife 23 integral therewith do not need to be installed.

Please amend the paragraph beginning at page 22 line 32, as follows:

In this way, during operation of the apparatus 1, the stress transmitted to the ~~incision~~etching knife 23 is discharged onto the frame 252 by means of the tooth 173.

Please amend the paragraph beginning at page 23 line 1, as follows:

When it is necessary to conduct maintenance or replacement operations of the ~~incision~~etching knife 23, the tooth 173 is again positioned in the release configuration W2, in which it allows the plate 250 to run along the guides 253 to reach the retracted rest position M, in which the second edge zone 156 is placed in contact with the ~~step~~stopping element 168.

Please amend the paragraph beginning at page 23 line 20, as follows:

As a result, it is possible to monitor the operating position taken up by the ~~incision~~  
etching knife 23, when the plate 250 with which it is integral is in the advanced work  
configuration L.

Please amend the paragraph beginning at page 23 line 23, as follows:

In other words, by replacing the spacer 169 with a further spacer having a suitable  
thickness, it is possible to obtain an apparatus wherein the distance of the ~~incision~~  
etching knife from the caps to be cut can be adjusted, for example to offset shortening  
due to wear of the ~~incision~~etching knife.

Please amend the paragraph beginning at page 23 line 28, as follows:

A monitoring device can also be provided that checks the state of wear of the ~~incision~~  
etching knife 23.

Please amend the paragraph beginning at page 23 line 32, as follows:

The pressurized air recovery device 44 comprises a conduit 45 connected to a suction  
~~means~~device suitable for sucking up the appendages of the casting feedheads that  
are removed from the caps 2 by means of the cutting device 37 associated with the  
~~transfer~~transferring turntable 6.



Please amend the paragraph beginning at page 24 line 10, as follows:

The pressurized air recovery device 44 comprises a further conduit 50 connected to further suction ~~means~~ device suitable for sucking up flashing produced by the interaction between the cutting ~~means~~ arrangement 5 and the caps 2.

Please amend the paragraph beginning at page 24 line 21, as follows:

The pressurized air recovery device 44 enables energy consumption to be limited due to a pressurized-air generating ~~means~~ device inasmuch as air having a pressure greater than atmospheric air is reused rather than being discharged into an external environment.

Please amend the paragraph beginning at page 24 line 26, as follows:

With reference to Figure 15, the folding ~~means~~ arrangement 52 is shown, which comprises a plurality of collars 148, each fitted on a respective disc body 55 and sliding on a relative spindle 53 such as to fold the flaps 54 of a cap 2 towards the inside of the cap when the latter is shifted upwards.

Please amend the paragraph beginning at page 24 line 31, as follows:

The apparatus 1 can furthermore be provided with a cutting means-arrangement –not shown – different from the cutting ~~means-arrangement~~ 5, shown in Figures 4 to 6, and made according to the teachings of International Patent Application WO 99/17911, the contents of which are included here for reference.

Please amend the paragraph beginning at page 25 line 3, as follows:

In order to provide a folding means-arrangement in WO 99/17911 it is generally sufficient to fit a collar 148 outside the spindle of the cutting ~~means-arrangement~~ disclosed in WO 99/17911.

Please amend the paragraph beginning at page 25 line 6, as follows:

In particular, this cutting ~~means-arrangement~~ comprises a plurality of jaws having a first end hinged on a respective spindle 53 and a second end with which are associated cutting tools shaped as a circumference ~~areh~~ arc.

Please amend the paragraph beginning at page 25 line 20, as follows:

In this case, the cutting ~~means-arrangement~~ is associated with the relative spindle 53 in such a way as to be coaxially arranged in relation to the folding ~~means-arrangement~~ 52 and outside them in relation to the spindle 54.

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Please amend the paragraph beginning at page 25 line 24, as follows:

The folding ~~means~~ arrangement 52 is rotatable around an axis K and is provided with a rotating electric commutator 56 interposed between first electric terminals 57 and second electric terminals 58 suitable for supplying resistances 59 arranged to heat the collars 148.

Please amend the paragraph beginning at page 25 line 31, as follows:

With reference to Figure 16, a ~~transfer~~ transferring turntable 6 is shown with which a chamber 60 is associated that defines an environment 61, isolated from the exterior, inside which the caps 2 can be subjected to preset treatment, such as refrigeration, or heating or treatment in a controlled atmosphere.

Please amend the paragraph beginning at page 26 line 7, as follows:

In particular, the chamber 60 may be associated with the further ~~transfer~~ transferring turntable 7 rather than with the ~~transfer~~ transferring turntable 6.

Please amend the paragraph beginning at page 26 line 10, as follows:

As shown in Figure 17, the apparatus 1 comprises a sensor ~~sensing means~~ arrangement 62 comprising a position sensor 63 that detects ~~shifts~~ any shifting of ~~incision~~ etching knife 23 due to the heat expansion of the latter.

Please amend the paragraph beginning at page 26 line 13, as follows:

The position sensor 63 is connected to the positioning device 22 in such a way as to control the micrometric screw 26 to offset the shift of the ~~incision-etching~~ knife 23.

Please amend the paragraph beginning at page 26 line 16, as follows:

The ~~sensor-sensing means-arrangement~~ 62 may comprise, as an alternative to the position sensor 63, or in addition thereto, a temperature sensor arranged to detect the temperature of the caps 2.

Please amend the paragraph beginning at page 26 line 19, as follows:

The temperature sensor is connected to the positioning device, in such a way as to adjust the position of the ~~incision-etching~~ knife 23 taking account of the variations of the physical characteristics of the caps 2 according to the temperature of the latter. Physical characteristics that are influenced by temperature are, inter alia, the dimensions, mechanical resistance and the friction coefficient of the caps.

Please amend the paragraph beginning at page 26 line 26, as follows:

The ~~sensor-sensing means-arrangement~~ 62 may comprise a colour sensor-sensing means-device suitable for detecting the colour of the caps 2.

Please amend the paragraph beginning at page 26 line 31, as follows:

This is rather important for cutting operations, inasmuch as the cutting ~~means~~  
arrangement 5 have to act more energetically on the caps 2 if the latter are made of  
plastic material provided with greater resistance.

Please amend the paragraph beginning at page 27 line 1, as follows:

The colour ~~sensor-sensing means~~device, therefore, after detecting the colour of the  
caps 2, on each one of which a nominal cutting line must be obtained, correspondingly  
~~control-controls~~ the positioning device 22.

Please amend the paragraph beginning at page 27 line 5, as follows:

The presence of the ~~sensor-sensing means-arrangement~~ 62 and ~~their-the~~ interaction  
thereof with the positioning device 22, enables remote monitoring of the position of the  
~~incision-etching~~ knife 23 of the apparatus 1.

Please amend the paragraph beginning at page 27 line 8, as follows:

With reference to Figures 18 to 20, 100 globally indicates an apparatus to fold a fixing  
promoting ~~means-arrangement of~~ for fixing caps in synthetic material according to the

invention, said fixing promoting ~~means~~ arrangement being constituted for example by a tamperproof ring.

Please amend the paragraph beginning at page 27 line 12, as follows:

The apparatus comprises a base that rotationally centrally supports a vertical shaft 102 that actuates a rotating turntable 103. At the top of the vertical shaft 102 a substantially tubular body 104a is supported with interposition of rolling bearings 104 on which a top cover 104b is locked fixed coaxially in relation to the base. The rotating turntable 103 is suitable for conveying the caps 2 in synthetic material, each one of which is provided with a respective tamperproof ring 106, the caps 2 are supplied continuously by a conveying ~~means~~ device.

Please amend the paragraph beginning at page 27 line 22, as follows:

According to the invention, the turntable 103 comprises a plurality of receptacles 107 for respective caps 2, angularly spaced at an equal distance from one another and provided with a substantially uniform peripheral distribution of folding ~~means~~ arrangements 108 articulated according to respective radial planes, the intersection of which planes being the axis of symmetry H of the cap 2; the folding ~~means~~ arrangements 108 ~~is~~ are suitable for rotating from a first substantially retracted angular position outside the perimeter of the tamperproof ring 106 to a second angular position

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extending in a centripetal direction in relation to the axis H of the cap to fold the tamperproof ring 106 inside the cap.

Please amend the paragraph beginning at page 28 line 14, as follows:

The apparatus is provided with a plurality of lifting organs 117 suitable for ~~making the translation of~~translating the caps 2 axially from a bottom inlet ~~supply~~supplying position to an intermediate position in the receptacles 107, ~~to in~~in which the caps 2 are taken, with the respective tamperproof rings 106, in peripheral contact along ~~their~~the side surface thereof with the folding ~~means~~arrangements 108 in the first inactive angular position, and from said intermediate position to a top position wherein the folding ~~means~~arrangements 108 ~~is~~are rotated to the second angular position.

Please amend the paragraph beginning at page 28 line 23, as follows:

The lifting organs 117 comprise, for each of the caps 2 housed between the respective receptacles 107, a bottom plate 118, possibly supported by a respective trunk 118a, to support a respective cap 2 resting on its flat surface; the plate 118 is associated with an actuating ~~means~~device to lift the cap 2 from the bottom position to the intermediate position and from the intermediate position to the top position.

Please amend the paragraph beginning at page 29 line 3, as follows:

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Inside the sleeve 119 a ~~shank-stem~~ 123 is guided slidingly axially that is provided below with a threaded portion along which a foot 124 is threaded that is engageable on the flat surface of the respective cap 2. At the opposite end the ~~shank-stem~~ 123 is connected elastically, through the interposition of a top contrast spring 125 to a pad 126 engaged slidingly in the respective channel 115 of the support 111; the pad 126 is provided laterally with an idle wheel 127 suitable for rolling along the annular track 116 of the cover 104b, such as to determine a preset axial shift of the ~~shank-stem~~ 123 in relation to the angular position of the turntable 103 in relation to the cover 104b.

Please amend the paragraph beginning at page 29 line 15, as follows:

Along the external surface of the sleeve 119 (see figures 19 and 20), particularly below the collar 122, a moving element 128 is slidingly guided that carries the folding ~~means~~ arrangements 108 distributed below of the tamperproof ring 106: the moving element 128 is translatable integrally with the cap 2 by means of the lifting organs 117 from the intermediate position to the top position defined previously.

Please amend the paragraph beginning at page 29 line 22, as follows:

The annular body 120 has, on the bottom face, a uniform distribution of radially arranged projections 129 angularly spaced at an equal distance from one another and having a curved substantially convex contour; this is furthermore affected by a plurality



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of cylindrical through seats 130 with respective axes that are parallel to those of the ~~shank-stem~~ 123.

Please amend the paragraph beginning at page 29 line 28, as follows:

The moving element 128 is constituted by a coupling 131 with which an annular plate 132 is integral at the bottom that is coaxial to the coupling. The coupling is provided with a plurality of peripherally distributed cylindrical seats 133 having two diameters; along the internal surface of the coupling 131 and substantially in the middle an internal ring 134 is obtained provided with holes 135 with respective axes parallel to the axis of the ~~shank-stem~~ 123 and in which are respectively locked partially emerging pegs 136 and which slide in the respective through seats 130.

Please amend the paragraph beginning at page 30 line 21, as follows:

The annular plate 132 has a plurality of openings 147 angularly spaced at an equal distance from one another for the housing of the respective folding ~~means~~ arrangements 108; it defines, along its internal surface, a shoulder 148 suitable for stopping the edge of the cap 2.

Please amend the paragraph beginning at page 30 line 26, as follows:

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According to the invention, the folding ~~means~~ arrangements 108 ~~comprises~~ comprise a plurality of rocker arms 149 rotationally supported on respective pivots 150 each one of which is fitted in a respective opening 147 and is locked with horizontal grubscrews 150a with axes arranged in directions substantially tangential to the cap 2 (Figure 21).

Please amend the paragraph beginning at page 31 line 27, as follows:

The continuously supplied caps 2 are each deposited on a respective plate 118 lying on the respective flat surface in the bottom position of the lifting organs 117. Each ~~shank-stem~~ stem 123, actuated by rolling of the respective wheel 127 in the track 116 is made to descend until the foot 124 comes to engage in the flat surface of the cap 2.

Please amend the paragraph beginning at page 31 line 33, as follows:

Each cap 2, locked between the respective plate 118 and the foot 124, is then lifted from the bottom position until it reaches the intermediate position {Figure 19), where it is inserted in the respective receptacle 107 with the edge stopping on the shoulder 148 of the annular plate 132. The presence of the top spring 125 associated with the ~~shank~~ stem 123 enables compensation of even slight dimensional differences between the different caps 2, due to manufacturing imperfections.

Please amend the paragraph beginning at page 32 line 26, as follows:

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After the tamperproof ring 106 has been folded, the cap 2 is lowered until it again reaches the bottom position, thanks to the simultaneous downwards transfer of the ~~shank-stem~~ 123 (that facilitates expulsion of the cap 2 from the receptacle 107) and of the plate 118. To this shift also corresponds the descent of the moving element 128 to the corresponding initial position (corresponding to the intermediate position of the cap 2), caused by the bottom spring 146; there is also the axial downward transfer of the rods 138, caused by the peripheral springs 143 with the rocker arms 149 that correspondingly rotate, thereby reaching the first angular position.

Please amend the paragraph beginning at page 33 line 4, as follows:

The apparatus according to the invention enables the tamperproof ring 106 to be folded by folding ~~means~~ arrangements 108 that act in directions that are substantially radial in relation to the axis of the cap 2, thereby preventing the cap from being subjected to excessive stress that is a frequent cause of undesired plastic deformation.